UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/518,732 | 12/20/2004 | Robert M Lorence | 18025-PCTUS | 3190 |

7590 02/07/2007

Lewis J. Kreisler
Legal Department
930 Clopper Road
Gaithersburg, MD 20878

| EXAMINER | |
|---|---|
| LI, BAO Q | |
| ART UNIT | PAPER NUMBER |
| 1648 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|---|---|---|
| 3 MONTHS | 02/07/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/518,732 | LORENCE, ROBERT M | |
| | Examiner | Art Unit | |
| | Bao Qun Li | 1648 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *20 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-6,9,12,17-23,26-34,37 and 52* is/are pending in the application.

4a) Of the above claim(s) *31 and 32* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6,9,12,17-23,26-30,33,34,37 and 52* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *See Continuation Sheet*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :11/16/06, 11/28/05, 03/30/05
03/24/05, .

## DETAILED ACTION

The preliminary amendment filed on 11/20/2004 has been acknowledged. Claims 7-8, 10-11, 13-16, 24-25, 35-36, 38-51 and 53-71 have been canceled. Claims 1-6, 9, 12, 17-23, 26-34, 37, 52 are pending.

### *Election/Restrictions*

1. Applicant's election with traverse of group I, claims 1-6, 9, 12, 17, 21-23, 26-30, 33-34, 37, 52 in the reply filed on 11/21/2006 is acknowledged. The traversal is on the ground(s) that the way of administering a negative stranded RNA virus is the special technical feature. This is not found persuasive because the special technical feature of using the negative strain of RNA virus for treating a subject with same treatment regiment or are taught by the prior art by previous office action and more in this office action se forth below. Accordingly, Groups I and II related to a single general inventive under the concept within the meaning of Rule 13.1 PCT is destroyed.

2. The requirement is still deemed proper and is therefore made FINAL. Claims 1-6, 9, 12, 17, 21-23, 26-30, 33-34, 37, 52 are considered.

### *Double Patenting*

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re*

*Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

An obviousness-type double-patenting rejection is appropriate where the conflict claims are not identical but an examined application claim is not patentably distinct from the reference claim(s) because the examined claim(s) is either anticipated by or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 14U F.3d 1428, 46 USPQZd 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQZd 2010 (Fed. either anticipated by, 1993); In re Longi, F.2d 887, 225 US/Q 645 (Fed. Cir. 1985). The following rejections are all obvious double patenting rejections based on the broadly claimed methods cited in each of the copending applications with same inventor. Although the conflicting claims are not identical, they are not patentably distinct from each other.

4. Claims 1-5, 6 26, 27, 29, 30, 34, 37, 52, and 34 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 and 11-12 of copending Application No. 10,547,654 in view of Lorence R. (WO 94/25627A1). Although the conflicting claims are not identical, they are not patentably distinct from each other because they have overlapping scopes regarding how to administrate oncolytic NDV for treating tumor. For example, the claimed method is directed to administrating a therapeutic NDV into a subject having a tumor in one or more cycles intravenously, wherein at least one cycle comprising sequentially two or more desensitization doses of the virus followed by one or more escalated doses of the virus, wherein the first desensitization doses is at least 1 X $10^8$ PFU per

square meter of patient surface area per every 10 minutes in about 24 hours (claim 6) followed by 2nd or 3rd dosages at the virus titers up to 3X $10^9$PFU (claims, 9, 12, 17, 23, 26 and 37) or to 6.7 X $10^8$PFU (claim 27 ) or 3.3 X $10^8$PFU or 2 to 5 X$10^{10}$PFU (29-30 and 52 ) per square meter of patient surface area per every 10 minutes in up to 24 hours. The conflict clams in the copending application 10,547,654 are directed to a method for treating a mammal comprising administering the NDV to a subject in one ore more cycles too, wherein the cycles comprises at least one cycle of desensitization doses followed by one or more escalated doses of the virus intravenueously, wherein the dosage is from 2 to 7 X $10^8$ PFU square meter of patient surface area per every 10 minutes in about 18 or 24 to 36 hours. To this context, the regiments cited in the conflict claims are within the broad scope of the claims 1-5, 6 26, 27, 29, 30, 34, 37, 52, and 34. Therefore, the scopes of the rejected claims and conflict claims having an overlapped scope and they are considered to be obvious version each from other. A person having ordinary skill in the art would have been obviously use either one of them to get unexpected similar biological effects. To this context, it would have been obvious for an ordinary skilled in the art to select an optimal dose and schedule to get same therapeutic effect once the NDV had already approved to be therapeutic effective in the state of art as evidenced by applicant's own teaching in WO94/25627A1. Lorence R teaches in the WO94/25627A1 document that "Effective dosage and schedules for administering the virus may be determined empirically, and making such determinations is within the skill in the art (Please see page 11)."

5. Claims 1-5, 29, 30, 33, 34 and 52 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-9, 14-15, 18-19 of copending Application No. 10,548,057 in view of Lorence R. (WO 94/25627A1). Although the conflicting claims are not identical, they are not patentably distinct from each other because they have overlapping scopes regarding the dosages for delivering the virus into a subject including human intravenueously. For example, both methods comprise administrating a therapeutic NDV into a subject in one or more cycles, wherein rate of the delivery in the conflict claims of the copending application is from 1.8 X$10^{10}$ up to 4.8 X $10^{10}$ PFU square meter of patient surface area per every 10 minutes in about 24, this dose is within the range of the rejected claims at up to 5 X$10^{10}$ PFU square meter of patient surface area per every 10 minutes in about

24. Therefore, the scopes of the rejected claims and conflict claims having an overlapped scope and they are considered to be obvious version each from other. A person having ordinary skill in the art would have been obviously use either one of them to get unexpected similar biological effects. To this context, it would have been obvious for an ordinary skilled in the art to select an optimal dose and schedule to get same therapeutic effect once the NDV had already approved to be therapeutic effective in the state of art as evidenced by applicant's own teaching in WO94/25627A1. Lorence R teaches in the WO94/25627A1 document that "Effective dosage and schedules for administering the virus may be determined empirically, and making such determinations is within the skill in the art (Please see page 11)."

6. Claims 1-5, 29, 33, 33, 34 and 52 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 13, 16-17 of copending Application No. 10,700,143 in view of Lorence R. (WO 94/25627A1). Although the conflicting claims are not identical, they are not patentably distinct from each other because they have overlapping scopes regarding the rage of administering the oncolytic NDV into a subject intraveneously. For example, both claimed methods comprise administrating a therapeutic NDV in more than one cycles, wherein the rate in the conflict claims are from $1.2 \times 10^{10}$ up to $4.8 \times 10^{10}$ followed by the escalated dose from $2.4 \times 10^{10}$ up to $1.2 \times 10^{11}$ PFU per square meter of patient surface area per every 10 minutes in about 24. This meets limitation in the rejected claims that broadly read on the rate from the $2 \times 10^{10}$ of desensitizing dose of the escalated dose up to $5 \times 10^{10}$ PFU per square meter of patient surface area per every 10 minutes in about 24. Therefore, the scopes of the rejected claims and conflict claims having an overlapped scope and they are considered to be obvious version each from other. A person having ordinary skill in the art would have been obviously use either one of them to get unexpected similar biological effects. To this context, it would have been obvious for an ordinary skilled in the art to select an optimal dose and schedule to get same therapeutic effect once the NDV had already approved to be therapeutic effective in the state of art as evidenced by applicant's own teaching in WO94/25627A1. Lorence R teaches in the WO94/25627A1 document that "Effective dosage and schedules for administering the virus may be determined empirically, and making such determinations is within the skill in the art (Please see page 11)."

7. Claims 1-4 and 34 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 118, 119, 120, 149, 150 of copending Application No. 10,167,652 n view of Lorence R. (WO 94/25627A1) in view of Lorence R. (WO 94/25627A1).. Although the conflicting claims are not identical, they are not patentably distinct from each other because they have overlapping scopes regarding administrating a replication, competent RNA virus into a subject with more than one doses, wherein the first dose is a lower desensitizing dose and the following doses are escalated doses higher than the fist dose. Therefore, the scopes of the rejected claims and conflict claims having an overlapped scope and they are considered to be obvious version each from other. A person having ordinary skill in the art would have been obviously use either one of them to get unexpected similar biological effects. To this context, it would have been obvious for an ordinary skilled in the art to select an optimal dose and schedule to get same therapeutic effect once the NDV had already approved to be therapeutic effective in the state of art as evidenced by applicant's own teaching in WO94/25627A1. Lorence R teaches in the WO94/25627A1 document that "Effective dosage and schedules for administering the virus may be determined empirically, and making such determinations is within the skill in the art (Please see page 11)."

8. Claims 1-5 and 34 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 174, 197-200, 217, 230, 231, 232 of copending Application No. 09,985,809 n view of Lorence R. (WO 94/25627A1). Although the conflicting claims are not identical, they are not patentably distinct from each other because they have overlapping scopes regarding the treatment regiments of administration of the oncolytic NDV in more than one cycles, wherein the first cycle is a lower dose of desensitizing dose followed by a escalated higher dose of the administrations. To this context, the claims 1-5 and 34 of the current application and the copending application are considered to be obvious each from other and are not considered patentable distinct each from other. Because an person having ordinary skill in the art will use one the doses in the cited ranges in both copending application and in the pending claims to produce a similar biological effect absence unexpected result because the regiment and range cited in the claimed invention falls within the same range of the conflict claims. Therefore, the scopes of the rejected claims and conflict claims having an

overlapped scope and they are considered to be obvious version each from other. A person having ordinary skill in the art would have been obviously use either one of them to get unexpected similar biological effects. To this context, it would have been obvious for an ordinary skilled in the art to select an optimal dose and schedule to get same therapeutic effect once the NDV had already approved to be therapeutic effective in the state of art as evidenced by applicant's own teaching in WO94/25627A1. Lorence R teaches in the WO94/25627A1 document that "Effective dosage and schedules for administering the virus may be determined empirically, and making such determinations is within the skill in the art (Please see page 11)."

9. The above obvious double patenting rejections are all provisional obviousness-type double patenting rejections because the conflicting claims have not in fact been patented.

10. Claims 1-5 and 34 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 7,056,689 in view of Lorence R (WO 94/25627A1).

11. In the instant case, the conflict claim is directed to a method for treating cancer in a mammal comprising administering intravenously to said mammal more than one dose of a pharmaceutical composition comprising live purified Newcastle Disease Virus (NDV) in a mount sufficiently to cause tumor regression, while the detail regiment does not include the fist desensitizing dose plus one or more escalated doses after the first desensitizing dose, it still read on an on obvious version of the claims 1-5 and 34 because it would have been obvious for an ordinary skilled in the art to select an optimal dose and schedule to get same therapeutic effect once the NDV had already approved to be therapeutic effective in the state of art as evidenced by applicant's own teaching in WO94/25627A1. Lorence R teaches in the WO94/25627A1 document that "Effective dosage and schedules for administering the virus may be determined empirically, and making such determinations is within the skill in the art (Please see page 11)."

***Claim Rejections - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-5, 6-9, 12, 17, 21-23, 26-30, 33, 34, 37 and 52 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lorence R (WO 99/18799A1) in view of Lorence R. (WO 94/25627A1).

Lorence R. teach a method for treating a tumor in a subject using replication, competent, RNA negative strain virus Newcastle Disease Virus (NDV) and other RNA virus, wherein the NDV virus is strain PPMK107 or strain NJ Rosin (Please see entire document, e.g. Table 1 on page 22). Lorence R further teaches that the treatment comprises administrations of NDV in more than one dose and intervals, wherein the dose is from about $3 \times 10^6$ to about $5 \times 10^{12}$ PFU by an intratumoral injections or from about $3 \times 10^8$ to about $4 \times 10^{11}$ PFU of virus per square meter of body surface area by a systematic administration. For intravenous administration, dosing schedules of once per week, two time per week and three times per week are used (See page 31). Lorence also teaches that in an advantage embodiment of the invention, a desensitizing dose is given before higher subsequent dose. For sensitization, a virus dose is from $1 \times 10^8$ to about $2.4 \times 10^{10}$ PFU/m$^2$ are give. After sensitization, additional virus doses of $3 \times 10^8$ to about $4 \times 10^{12}$ PFU/m$^2$ are used. The time frame between dose, including the time frame between desensitizing dose and the text dose, is 1 to 14 days, advantageously 1 to 7 days. The desensitization does can be administrated by various routs, including intravenous rout (See page

32). Because the dosages are taught all within the ranges as claims broadly claimed, the reference anticipates the claims.

Or alternatively, it would have been obvious for an ordinary skilled in the art to select an optimal dose and schedule each time when use NDV for treating a patient because one the NDBV had been approve to be effective and therapeutic benefit for treating a patients via its oncolytic mechanism, the effective dosage and schedules for administering the virus may be determined empirically, and making such determinations is within the skill in the art as evidenced by Lorence R. (WO 94,25627A1, see page 11).

As there are no unexpected results have been provided, hence the claimed invention as a whole is prima facie obvious absence unexpected results.

Claims 1-5, 6-9, 12, 17, 21-23, 26-30, 33, 34, 37 and 52 are rejected under 35 U.S.C. 102(b) as anticipated by Pecora et al. (J. Clinical Oncology May 2002, Vol. 20, no. 9, pp. 2251-2266) or, in the alternative, under 35 U.S.C. 103(a) as obvious over in view of Lorence R. (WO 94/25627A1).

Claims 1-12, 17, 21-23, 33, 34 are rejected under 35 U.S.C. 102(a) as being anticipated by Pecora et al. (J. Clinical Oncology May 2002, Vol. 20, no. 9, pp. 2251-2266). Pecoral et al. teach a method for treating tumor with a replication-competent strain of New Castle Disease virus (PV701). The methodologies comprise three different administering regiments of oncolytic NDV, PV701 strain. One of them is named as **Desinsitizing regiment,** which comprises five dosages. The first dose is given at $\underline{12X\ 10^9}$ PFU/$m^2$ (desinsitizing dose) on the first day followed by two doses of $\underline{24\ X\ 10^9}$ PFU/$m^2$, two doses of 48 X $10^9$ PFU/$m^2$, two doses of 72 X $10^9$ PFU/$m^2$, two doses of 96 X $10^9$ PFU/$m^2$ or 144 X $10^9$ PFU/$m^2$. For each patient, all three doses were administrated within 1 week and repeated every 28 days intravenueously. Another one is named as two-week regiment, it comprises more than one doses of NDV virus administrations, i.e. a first sensitizing does is 12 X $10^9$ PFU/$m^2$ followed by five doses of 96 X $10^9$ PFU/$m^2$, or five doses of 120 X $10^9$ PFU/$m^2$, wherein the dose 2 was given 4 days after does 1, the patients were given three doses per week for 2 weeks followed by 1 week of treatment. Both treatment regiments meet the limitations of the claimed method because the rate of delivery the NDV are within the ranges as claims 1-12, 21-23 and 33-34 broadly drafted, i.e. the first desensitizing

dose at the rate for at least 1X $10^8$PFU per square meter of patient's surface followed by escalated dose for at least 3 X$10^9$ PFU per square meter of patient's surface to at lease 9.6 X$10^9$ PFU per square meter of patient's surface for at least three times intravenueously. Pecora et al. also teach that a detail virus given speed and rout. They teach that VP701 was prepared and were administrated over 10 minutes intravenously at speed at about 25 ml/hour. For the subsequent 32 patients, PV701 was diluted into an intravenous saline bag and immediately administrated at rate of 1.2 X $10^9$ PFU/$m^2$ /min for dose 12 X $10^9$ PFU/$m^2$ and at rate 5.0 X $10^9$ PFU/$m^2$/min for dose greater than 12 X$10^9$ PFU/$m^2$ of a patient. To this context, the cited reference also meets the limitation of claims 26, 29, 30, 37, and 52 because the rates of the delivery are within the ranges up to 3X$10^9$ or 5X $10^{10}$ PFU/$m^2$ of patients in any ten minutes within 24 hours. Because the dosages are taught all within the ranges as claims broadly claimed, the reference anticipates the claims.

Or alternatively, it would have been obvious for an ordinary skilled in the art to select an optimal dose and schedule each time when use NDV for treating a patient because one the NDBV had been approve to be effective and therapeutic benefit for treating a patients via its oncolytic mechanism, the effective dosage and schedules for administering the virus may be determined empirically, and making such determinations is within the skill in the art as evidenced by Lorence R. (WO 94,25627A1, see page 11).

As there are no unexpected results have been provided, hence the claimed invention as a whole is prima facie obvious absence unexpected results.

Claims 1-5, 6-9, 12, 17, 21-23, 26-30, 33, 34, 37 and 52 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lorence R (WO 0062735A2) in view of Lorence R. (WO 94/25627A1).

Lorence R. teach a method for treating a tumor in a subject using replication, competent, RNA negative strain virus Newcastle Disease Virus (NDV) and other RNA virus, wherein the NDV virus is strain PPMK107 or strain NJ Rosin (Please see entire document, e.g. Table 1 on page 22). Lorence R further teaches many selected dosages suitable for using said NDV oncolytic virus as a treatment of cancer (See page 33), wherein the dosages comprises administrations of NDV in more than one dose and intervals, and the dose is from about 3 X $10^6$

to about 5 X $10^{12}$ PFU /m2 of patient' or from about 3 X $10^{8}$ to about 4 X $10^{11}$ PFU/m2 of a patient's body surface area by a systematic intravenous administration. For intravenous administration, dosing schedules of once per week, two time per week and three times per week are used (See page 33). Lorence also teaches that in an advantage embodiment of using desensitizing dose for reducing the lethal effect and increase the therapeutic benefit (Examples 18-, 19, 28, 29). For example, using IV desensitization, the dose is from 3X $10^{8}$ followed by 1X $10^{9}$ PFU/$m^2$. 2.5X $10^{9}$ PFU/$m^2$, 5X $10^{9}$ PFU/$m^2$ and 1X $10^{10}$ PFU/$m^2$ respectively (Example 18). The time frame between dose, including the time frame between desensitizing dose and the text dose, is 1 to 14 days, advantageously 1 to 7 days. Because the dosages are taught all within the ranges as claims broadly claimed, the reference anticipates the claims.

Or alternatively, it would have been obvious for an ordinary skilled in the art to select an optimal dose and schedule each time when use NDV for treating a patient because one the NDBV had been approve to be effective and therapeutic benefit for treating a patients via its oncolytic mechanism, the effective dosage and schedules for administering the virus may be determined empirically, and making such determinations is within the skill in the art as evidenced by Lorence R. (WO 94,25627A1, see page 11).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1-5 and 33-34 are rejected under 35 U.S.C. 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 7,056,689) in view of Lorence R (WO 94/25627A1).

U.S. Patent No. 7,056,689B1 teaches a method for treating tumor comprising administration of more than two doses of NDV into a mammal intravenously (Claim 1). Therefore, the claims 1-5 and 33-34 are anticipated by the cited patent.

Or alternatively, it would have been obvious for an ordinary skilled in the art to select an optimal dose and schedule each time when use NDV for treating a patient because one the NDBV had been approve to be effective and therapeutic benefit for treating a patients via its oncolytic mechanism, the effective dosage and schedules for administering the virus may be determined empirically, and making such determinations is within the skill in the art as evidenced by Lorence R. (WO 94,25627A1, see page 11).

The applied reference has a common Lorence R. with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

***Conclusion***

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bao Qun Li whose telephone number is 571-272-0904. The examiner can normally be reached on 6:30 am to 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bruce Campell can be reached on 571-272-0974. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Baoqun Li

BAOQUN LI, MD
PATENT EXAMINER

Bao Qun Li
2/4/2007